

CLAIMS

What is claimed is:

1. A method for color processing, comprising the steps of:
5 defining a composite color space in a memory of a computer system,
the composite color space having a number of color space portions and a number
of transition portions between adjacent ones of the color space portions; and
converting an input color space representation of a color into a
composite color space representation of the color in the computer system.

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2. The method of claim 1, further comprising the step of gamut mapping
the color in the composite color space to obtain a representation of the color in the
composite color space that is reproducible by an output device

15 3. The method of claim 1, wherein the step of defining the composite
color space, further comprises the step of defining each of the color space portions
as a portion of a predefined color space.

20 4. The method of claim 1, wherein the step of defining the composite
color space further comprises the step of defining a color space within each of the
transition portions as a hybrid of the color space portions adjacent thereto.

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5. The method of claim 1, wherein the step of converting an input color space representation of the color into the composite color space representation of the color in the computer system further comprises the steps of:

5 defining a number of color space conversions associated with a respective number of hue angle ranges to convert the input color space representation of the color into the composite color space representation of the color;

10 identifying one of the color space conversions corresponding to a hue angle associated with the color; and

10 converting the input color space representation to the composite color space representation of the color based on the respective color space conversion.

15 6. The method of claim 5, wherein the step of converting the input color space representation to the composite color space representation of the color based on the respective color space conversion further comprises the step of calculating the composite color space representation in one of the transition portions as a weighted sum of the color space representations of adjacent ones of the color space portions.

20 7. A computer program embodied on a computer readable medium for color processing, comprising:

25 logic to define a composite color space, the composite color space having a number of color space portions and a number of transition portions between adjacent ones of the color space portions; and

logic to convert an input color space representation of a color into a composite color space representation of the color.

8. The computer program embodied on the computer readable medium of claim 7, further comprising logic to perform gamut mapping of the color in the composite color space to obtain a representation of the color in the composite color space that is reproducible by an output device.

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9. The computer program embodied on the computer readable medium of claim 7, wherein the logic to define the composite color space, further comprises logic to employ a portion of a predefined color space as each of the color space portions.

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10. The computer program embodied on the computer readable medium of claim 7, wherein the logic to define the composite color space further comprises logic to define a color space within each of the transition portions as a hybrid of the color space portions adjacent thereto.

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11. The computer program embodied on the computer readable medium of claim 7, wherein the logic to convert the input color space representation of the color into the composite color space representation of the color further comprises:

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logic to define a number of color space conversions associated with a respective number of hue angle ranges to convert the input color space representation of the color into the composite color space representation of the color;

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logic to identify one of the color space conversions corresponding to a hue angle associated with the color; and

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logic to convert the input color space representation to the composite color space representation of the color using the respective color space conversion.

12. The computer program embodied on the computer readable medium of claim 11, wherein logic to convert the input color space representation to the composite color space representation of the color based on the respective color space conversion further comprises logic to calculate the composite color space representation in one of the transition portions as a weighted sum of the color space representations of adjacent ones of the color space portions.

10 13. A system for color processing, comprising:

a processor circuit having a processor and a memory;
logic stored on the memory and executable by the processor to define a composite color space, the composite color space having a number of color space portions and a number of transition portions between adjacent ones of the color space portions; and

15 logic stored on the memory and executable by the processor to convert an input color space representation of a color into a composite color space representation of the color.

20 14. The system of claim 13, further comprising logic stored on the memory and executable by the processor to perform gamut mapping of the color in the composite color space to obtain a representation of the color in the composite color space that is reproducible by an output device.

25 15. The system of claim 13, wherein the logic stored on the memory and executable by the processor to define the composite color space, further comprises logic stored on the memory and executable by the processor to employ a portion of a predefined color space as each of the color space portions.

16. The system of claim 13, wherein the logic stored on the memory and executable by the processor to define the composite color space further comprises logic stored on the memory and executable by the processor to define a color space within each of the transition portions as a hybrid of the color space portions adjacent thereto.

10 17. A system for color processing, comprising:
means for defining a composite color space in a memory of a
computer system, the composite color space having a number of color space
portions and a number of transition portions between adjacent ones of the color
space portions; and
means for converting an input color space representation of a color
into a composite color space representation of the color in the computer system.

15 20 18. The system of claim 17, further comprising means for gamut mapping
the color in the composite color space to an output color space.

25 19. The system of claim 17, wherein the means for defining the
composite color space, further comprises means for defining each of the color
space portions as a portion of a predefined color space.

30 20. The system of claim 17, wherein the means for defining the
composite color space further comprises means for defining a color space within
each of the transition portions as a hybrid of the color space portions adjacent
thereto.